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10/801,617	03/16/2004	Hahn Vo Norden	200300462-1	2908

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EXAMINER

CERULLO, JEREMY S

ART UNIT PAPER NUMBER

2112

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/801,617

Applicant(s)

NORDEN, HAHN VO

Examiner

Jeremy S. Cerullo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 15-20 and 22-26 is/are rejected.
- 7) ☒ Claim(s) 10-14 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20040316.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. Claims 1-26 are pending in the following action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6-9, 16, 19-20, 22-23, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,905,873 ("Hartmann" et al.).
4. As for Claim 1, Hartmann discloses a system with a plurality of devices adapted to send and receive data each using any one of a plurality of communication protocols and a switch comprising a plurality of ports, each port is adapted to couple to one of the devices and is configurable to use the protocol of the device. Please refer to Figures 2 and 6 and Column 9, Line 12 – Column 10, Line 37.
5. As for Claim 6, Hartmann discloses that the system is meant for communication between computer systems or networks. Please refer to Column 4, Lines 35-44.
6. As for Claim 7, Hartmann discloses in Figure 2 that the communication subsystem receives and transmits data on different sets of data lines.
7. As for Claim 8, Hartmann discloses a crossbar switch comprising a plurality of ports, each port is adapted to couple to one of a plurality of devices and is configurable

to use the protocol of the device, the crossbar switch operable to direct data flow between the ports. Please refer to Figures 2 and 6 and Column 9, Line 12 – Column 10, Line 37.

8. As for Claim 9, Hartmann also discloses that the switch comprises protocol converters that are capable of converting the data from one of the plurality of communication protocols to a generic protocol used by the crossbar. Please refer to Column 9, Line 64 – Column 10, Line 22.

9. As for Claim 16, Hartmann discloses a method comprising receiving data according to one of a plurality of protocols, converting the data from the protocol of the received data to a crossbar protocol, converting the data from the crossbar protocol to a selected one of the plurality of protocols, and outputting the data according to the selected protocol. Please refer to Figures 2 and 6 and Column 9, Line 12 – Column 10, Line 37.

10. As for Claim 19, Hartmann discloses the additional limitation that the system includes logic to select data paths between communication ports by establishing and remove connection paths within the switch. Please refer to Column 9, Lines 47-63.

11. As for Claim 20, Hartmann discloses that the path selection within the crossbar switch is controlled by arbitration logic (i.e. automatically). Please refer to Column 9, Lines 47-63.

12. As for Claim 22, Hartmann discloses a system with a plurality of devices adapted to send and receive data each using any one of a plurality of communication protocols and a crossbar switch comprising a plurality of ports, each port is adapted to couple to

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one of the devices and is configurable to use the protocol of the device. Hartmann also discloses that the ports comprise means for receiving data according to any one of the plurality of protocols, means for converting the received data to the protocol of the crossbar, and means for converting data from the crossbar to any of the plurality of protocols. Please refer to Figures 2 and 6 and Column 9, Line 12 – Column 10, Line 37.

13. As for Claim 23, Hartmann also discloses that the switch comprises means for queuing data (FIFO 564 in Figure 6).

14. As for Claim 26, Hartmann also discloses that the data received using a first protocol may be another format (i.e. incompatible) with the data transmitted via the second protocol. Please refer to Column 6, Lines 10-23.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent Application Publication No. 2005/0147126 ("Qiu" et al.) in view of Hartmann as

applied to Claim 1 above. Qiu teaches the use and need for a device that can

communicate with both PCI-X and PCI express buses (Page 3, Paragraph [0031]), but

Qiu does not teach the inner workings of the device. However, Hartmann does teach a

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system for translating from one protocol to another using a switch comprising a plurality of ports, each port is adapted to couple to one of the devices and is configurable to use the protocol of the device. Please refer to Figures 2 and 6 and Column 9, Line 12 – Column 10, Line 37. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the system of Hartmann within the device of Qiu in order to allow for translation between protocols.

17. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann as applied to Claim 1 above in view of U.S. Patent No. 6,266,713 ("Karanam" et al.).

18. As for Claim 3, Hartmann teaches all of the limitations inherited from Claim 1. Hartmann is silent, however, as to when the communication ports are configured. Karanam teaches a method of configuring communication ports at device initialization (Column 8, Lines 34-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the configuration method of Karanam in the system of Hartmann in order to ensure that the ports are configured, given that Hartmann is silent as to port configuration.

19. As for Claim 4, Hartmann teaches all of the limitations inherited from Claim 1. Hartmann is silent, however, as to when the communication ports are configured. Karanam teaches a method of configuring communication ports according to information defined by a user (Column 8, Lines 34-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the configuration

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method of Karanam in the system of Hartmann in order to ensure that the ports are configured, given that Hartmann is silent as to port configuration.

20. As for Claim 5, Hartmann teaches all of the limitations inherited from Claim 1.

Hartmann is silent, however, as to when the communication ports are configured.

Karanam teaches a method of configuring communication ports automatically at device initialization (Column 8, Lines 34-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the configuration method of Karanam in the system of Hartmann in order to ensure that the ports are configured, given that Hartmann is silent as to port configuration.

21. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann as applied to Claims 8 and 9 above in view of U.S. Patent Application Publication No. 2003/0051024 ("Garnett" et al.). Hartmann teaches all of the limitations inherited from Claims 1 and 9 (Refer to rejections of Claims 8 and 9 above), but Hartmann does not teach the use of a SerDes coupled to the protocol converter. However, Garnett teaches the use of SerDes devices coupled to protocol converters (Pages 18-19, Paragraphs [0220]-[0225]) to allow for easier buffering of the data. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a SerDes as taught by Garnett in the system of Hartmann to ease the buffering and switching.

22. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann as applied to Claim 16 above. Hartmann teaches all of the limitations inherited from Claim 16 (Refer to the rejection of Claim 16 above). The examiner takes OFFICIAL NOTICE that in order for a device to adequately communicate with a switch (or another device) the communication must follow a protocol understood by the device. It therefore would have been obvious to one of ordinary skill in the art at the time of the invention to have the protocol used to communicated to a device depend upon the protocol understood by the device.

23. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann as applied to Claim 16 above in view of U.S. Patent Application Publication No. 2003/0051024 ("Garnett" et al.). Hartmann teaches all of the limitations inherited from Claims 16 (Refer to rejections of Claims 16 above), but Hartmann does not teach serializing/deserializing the data. However, Garnett teaches the use of SerDes devices coupled to protocol converters (Pages 18-19, Paragraphs [0220]-[0225]) to allow for easier buffering of the data. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a SerDes as taught by Garnett in the system of Hartmann to ease the buffering and switching.

24. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann as applied to Claim 22 above in view of U.S. Patent No. 6,266,713 ("Karanam" et al.).

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25. As for Claim 24, Hartmann teaches all of the limitations inherited from Claim 22. Hartmann is silent, however, as to when the communication ports are configured. Karanam teaches a method of configuring communication ports automatically at device initialization (Column 8, Lines 34-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the configuration method of Karanam in the system of Hartmann in order to ensure that the ports are configured, given that Hartmann is silent as to port configuration. The examiner takes OFFICIAL NOTICE that in order for a device to adequately communicate with a switch (or another device) the communication must follow a protocol understood by the device. It therefore would have been obvious to one of ordinary skill in the art at the time of the invention to have the protocol used to communicate to a device depend upon the protocol understood by the device.

26. As for Claim 25, Hartmann teaches all of the limitations inherited from Claim 22. Hartmann is silent, however, as to when the communication ports are configured. Karanam teaches a method of configuring communication ports according to information defined by a user (Column 8, Lines 34-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the configuration method of Karanam in the system of Hartmann in order to ensure that the ports are configured, given that Hartmann is silent as to port configuration.

Allowable Subject Matter

27. Claims 10-14 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

28. The following is a statement of reasons for the indication of allowable subject matter:

29. As for Claim 10, the limitation that each port comprises logic for selecting a protocol converter and a data path according to configuration data has not been found in existing art.

30. Claims 11-14 inherit the allowable subject matter from Claim 10.

31. As for Claim 21, the limitation that selecting a data path, associated with a predetermined protocol, through a switch is user controlled has not been found in existing art.

Conclusion

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Application Publication No. 2005/0193171.

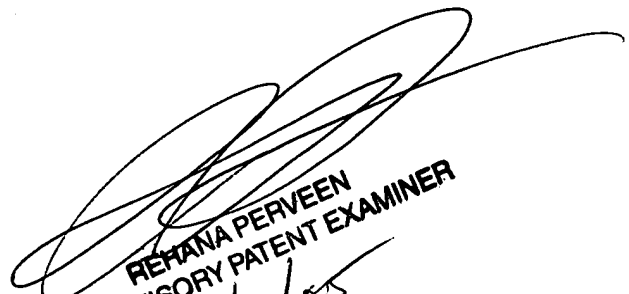
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy S. Cerullo whose telephone number is (571) 272-3634. The examiner can normally be reached on Monday - Thursday, 8:00-4:00; Alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JSC


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11/7/05